

Global Solar Radiation on a Horizontal Surface
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - February 1999

Field: GHI

Hour Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	0	0	2	36	141	134	134	470 ?	504	304 ?	152	102	24	0	0	0	0	0	0	2003
2	0	0	0	0	0	0	0	6	52	79	58	176	270	479	456	343	171	3	0	0	0	0	0	0	2091
3	0	0	0	0	0	0	0	8	72	259	482	593	634	603	514	374	188	30	0	0	0	0	0	0	3757
4	0	0	0	0	0	0	0	5	43	145	376	275	168	332	359	327	174	30	0	0	0	0	0	0	2234
5	0	0	0	0	0	0	0	11	161	347	495	599	612	621	518	385	163	42	0	0	0	0	0	0	3954
6	0	0	0	0	0	0	0	5	58	101	125	118	146	90	84	106	85	17	0	0	0	0	0	0	934
7	0	0	0	0	0	0	0	4	62	189	260	120	65	133	397	391	182	25	0	0	0	0	0	0	1829
8	0	0	0	0	0	0	0	3	44	127	342	563	659	629	484	285	251 ?	51	0	0	0	0	0	0	3438
9	0	0	0	0	0	0	0	14	93	247	492	297	123	174	54	45	21	3	0	0	0	0	0	0	1562
10	0	0	0	0	0	0	0	9	113	308 ?	531	653	681	651	556	407	224	46	0	0	0	0	0	0	4180
11	0	0	0	0	0	0	0	18	137	338	484	588	628	616	494	351	198	36	0	0	0	0	0	0	3889
12	0	0	0	0	0	0	0	21	148	123	65	45	77	82	64	76	131	34	0	0	0	0	0	0	866
13	0	0	0	0	0	0	0	8	59	127	287	364	514	330	428	349	174	57	0	0	0	0	0	0	2699
14	0	0	0	0	0	0	0	18	108	322	545	668	710	672	577	425	241	58	0	0	0	0	0	0	4344
15	0	0	0	0	0	0	0	12 ?	?	433	550	652	693	671	557	424	209	39	0	0	0	0	0	0	4240
16	0	0	0	0	0	0	0	33	200	389	547	650	689	656	560	426	243	59	0	0	0	0	0	0	4453
17	0	0	0	0	0	0	0	6	65	145	99	223	152	184	115	75	48	3	0	0	0	0	0	0	1116
18	0	0	0	0	0	0	0	9	70	217	434	614	722	611	509	312	188	80	0	0	0	0	0	0	3767
19	0	0	0	0	0	0	0	4	19	73	109	93	80	62	47	44	26	6	0	0	0	0	0	0	562
20	0	0	0	0	0	0	0	12	55	98	176	202	205	243	274	229 ?	129 ?	29	0	0	0	0	0	0	1652
21	0	0	0	0	0	0	0	12	67	244	224	311	416	532	397	323	189	33	1	0	0	0	0	0	2748
22	0	0	0	0	0	0	0	30	232	474	616	722	766	735	637	480	286	84	0	0	0	0	0	0	5062
23	0	0	0	0	0	0	0	13	43	72	200	271	342	268	199	101	75	74	1	0	0	0	0	0	1658
24	0	0	0	0	0	0	0	23	87	214	551	357	332	175	177	125	70	21	0	0	0	0	0	0	2132
25	0	0	0	0	0	0	0	8	41	109	145	170	80	43	52	40	32	25	0	0	0	0	0	0	744
26	0	0	0	0	0	0	0	40	110	270	643	714	734	693	596	451	268	67	1	0	0	0	0	0	4586
27	0	0	0	0	0	0	0	26	97	203	311	277	267	377	124	76	78	33	1	0	0	0	0	0	1869
28	0	0	0	0	0	0	0	12	23	86	161	195	212	197	132	110	32	10	1	0	0	0	0	0	1169
Avg	0	0	0	0	0	0	0	13	85	210	337	380	409	406	345	258	149	36	0	0	0	0	0	0	2626
S/D	0	0	0	0	0	0	0	10	52	113	186	221	248	231	198	148	79	23	0	0	0	0	0	0	1352
S/A	0	0	0	0	0	0	0	0.72	0.61	0.54	0.55	0.58	0.61	0.57	0.57	0.53	0.62	1.67	0	0	0	0	0	0	0.51
Min	0	0	0	0	0	0	0	2	19	72	58	45	65	43	47	40	21	3	0	0	0	0	0	0	562
Max	0	0	0	0	0	0	0	40	232	474	643	722	766	735	637	480	286	84	1	0	0	0	0	0	5062

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 3627 total daylight 5-minute measurements.

Note: Fractional values that do not appear in the hour columns are included in the calculation for daily values.

Data and Flag	Hour Column	Day Column
<value>*	20% < Missing < 100%	10% < Missing < 100%
<value>?	20% < Fail QC < 100%	10% < Fail QC < 100%
<blank>*	100% Missing	100% Missing
<blank>?	100% Fail QC	100% Fail QC

Station: BS
Latitude: 37.27° N
Longitude: 81.24° W
Elevation: 803 Meters AMSL
Time Zone: -5

Instrument: PSP
Calibration Constant: 8.99 uV/Wm-2
Serial Number: 25765F3
Calibration Date: 9/13/96
Note: Instrument was changed during month.

**Direct Normal Solar Radiation
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - February 1999**

Field: DNI

Hour Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	0	0	0	0	2	2	0	36 ?	132	53 ?	10	4	0	0	0	0	0	0	0	240
2	0	0	0	0	0	0	0	0	1	1	0	1	56	420	611	627	383	0	0	0	0	0	0	0	2099
3	0	0	0	0	0	0	0	0	1	321	929	971	1000	984	968	899	729	281	0	0	0	0	0	0	7084
4	0	0	0	0	0	0	0	0	1	71	527	187	27	192	450	432	404	68	0	0	0	0	0	0	2360
5	0	0	0	0	0	0	0	60	711	893	952	1005	901	1009	880	894	285	227	0	0	0	0	0	0	7817
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	6	0	0	0	0	0	0	13
7	0	0	0	0	0	0	0	0	1	55	132	3	1	3	455	884	525	26	0	0	0	0	0	0	2084
8	0	0	0	0	0	0	0	0	0	1	190	771	1012	1005	671	237	685 ?	350	0	0	0	0	0	0	4921
9	0	0	0	0	0	0	0	22	183	423	714	72	0	1	0	0	0	0	0	0	0	0	0	0	1416
10	0	0	0	0	0	0	0	0	26	653 ?	1005	1039	1051	1040	1011	930	807	387	0	0	0	0	0	0	7948
11	0	0	0	0	0	0	0	33	300	700	816	862	888	861	604	593	487	112	0	0	0	0	0	0	6256
12	0	0	0	0	0	0	0	31	328	182	0	0	0	0	0	0	3	29	0	0	0	0	0	0	573
13	0	0	0	0	0	0	0	0	0	0	64	118	271	61	384	294	86	38	0	0	0	0	0	0	1316
14	0	0	0	0	0	0	0	0	22	259	917	1016	1026	992	972	906	779	410	0	0	0	0	0	0	7299
15	0	0	0	0	0	0	0	204	770	920	969	976	995	997	872	799	463	11	0	0	0	0	0	0	7976
16	0	0	0	0	0	0	0	205	732	863	942	956	970	935	862	863	731	313	0	0	0	0	0	0	8371
17	0	0	0	0	0	0	0	0	4	10	1	4	1	1	1	0	0	0	0	0	0	0	0	0	23
18	0	0	0	0	0	0	0	0	0	99	346	650	927	590	485	265	236	274	0	0	0	0	0	0	3873
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	0	7	22	23	16	21	64	79 ?	83 ?	0	0	0	0	0	0	0	315
21	0	0	0	0	0	0	0	0	1	122	18	30	86	305	197	283	157	13	0	0	0	0	0	0	1215
22	0	0	0	0	0	0	0	1	448	938	1023	1054	1065	1056	1035	978	866	545	0	0	0	0	0	0	9008
23	0	0	0	0	0	0	0	0	0	0	2	3	9	2	1	0	0	7	0	0	0	0	0	0	23
24	0	0	0	0	0	0	0	0	0	3	427	10	4	1	1	0	0	0	0	0	0	0	0	0	445
25	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
26	0	0	0	0	0	0	0	78	1	35	791	911	889	802	774	755	612	138	0	0	0	0	0	0	5788
27	0	0	0	0	0	0	0	0	1	6	33	4	10	96	0	0	0	0	0	0	0	0	0	0	150
28	0	0	0	0	0	0	0	0	0	0	12	6	1	5	1	0	0	0	0	0	0	0	0	0	26
Avg	0	0	0	0	0	0	0	23	126	234	387	381	402	411	405	383	298	116	0	0	0	0	0	0	3166
S/D	0	0	0	0	0	0	0	54	241	331	411	448	466	438	391	383	308	159	0	0	0	0	0	0	3241
S/A	0	0	0	0	0	0	0	2.37	1.91	1.41	1.06	1.18	1.16	1.07	0.96	1	1.03	1.37	4.6	0	0	0	0	0	1.02
Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Max	0	0	0	0	0	0	0	205	770	938	1023	1054	1065	1056	1035	978	866	545	0	0	0	0	0	0	9008

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 3627 total daylight 5-minute measurements.

Note: Fractional values that do not appear in the hour columns are included in the calculation for daily values.

Data and Flag	Hour Column	Day Column
<value>*	20% < Missing < 100%	10% < Missing < 100%
<value>?	20% < Fail QC < 100%	10% < Fail QC < 100%
<blank>*	100% Missing	100% Missing
<blank>?	100% Fail QC	100% Fail QC

Station: BS
Latitude: 37.27° N
Longitude: 81.24° W
Elevation: 803 Meters AMSL
Time Zone: -5

Instrument: NIP
Calibration Constant: 8.52 uV/Wm-2
Serial Number: 19791E6
Calibration Date: 9/13/96
Note: Instrument was changed during month.

Diffuse Solar Radiation on a Horizontal Surface (Shadow Band PSP)
Hourly Integrated and Daily Totals
Watt-Hours per Square Meter
Bluefield State College - February 1999

Field: DHI

Hour Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily
1	0	0	0	0	0	0	0	1	34	133	126	127	396 ?	404	271 ?	141	96	22	0	0	0	0	0	0	1750
2	0	0	0	0	0	0	0	5	49	75	56	168	230	210	156	112	84	3	0	0	0	0	0	0	1147
3	0	0	0	0	0	0	0	7	69	129	58	62	60	60	52	47	34	10	0	0	0	0	0	0	589
4	0	0	0	0	0	0	0	4	41	113	145	173	144	208	131	163	70	25	0	0	0	0	0	0	1217
5	0	0	0	0	0	0	0	6	30	42	49	45	85	53	81	48	89	21	0	0	0	0	0	0	550
6	0	0	0	0	0	0	0	5	55	95	118	112	140	86	79	100	80	16	0	0	0	0	0	0	885
7	0	0	0	0	0	0	0	4	59	159	187	115	63	126	181	52	49	22	0	0	0	0	0	0	1017
8	0	0	0	0	0	0	0	2	41	119	227	114	57	53	111	171	104 ?	20	0	0	0	0	0	0	1019
9	0	0	0	0	0	0	0	11	53	79	139	252	117	164	51	43	20	3	0	0	0	0	0	0	931
10	0	0	0	0	0	0	0	9	99	79	40	41	47	45	41	38	30	12	0	0	0	0	0	0	481
11	0	0	0	0	0	0	0	16	66	78	81	89	90	106	175	113	79	22	0	0	0	0	0	0	914
12	0	0	0	0	0	0	0	18	73	65	62	42	73	76	59	69	123	26	0	0	0	0	0	0	685
13	0	0	0	0	0	0	0	7	55	118	225	279	319	280	225	217	150	50	0	0	0	0	0	0	1926
14	0	0	0	0	0	0	0	17	95	209	81	74	76	78	66	55	43	17	0	0	0	0	0	0	809
15	0	0	0	0	0	0	0	16	52	53	57	69	69	66	81	81	72	36	0	0	0	0	0	0	652
16	0	0	0	0	0	0	0	14	37	54	62	73	74	80	91	63	50	23	0	0	0	0	0	0	620
17	0	0	0	0	0	0	0	5	59	135	92	207	143	175	107	71	44	3	0	0	0	0	0	0	1041
18	0	0	0	0	0	0	0	8	64	161	225	181	112	225	227	189	123	45	0	0	0	0	0	0	1560
19	0	0	0	0	0	0	0	4	17	68	102	86	74	57	43	41	25	5	0	0	0	0	0	0	522
20	0	0	0	0	0	0	0	11	50	94	166	186	183	211	204	144 ?	85 ?	28	0	0	0	0	0	0	1362
21	0	0	0	0	0	0	0	11	63	165	204	276	336	309	270	183	134	30	0	0	0	0	0	0	1981
22	0	0	0	0	0	0	0	28	102	84	63	60	62	61	55	49	38	19	0	0	0	0	0	0	621
23	0	0	0	0	0	0	0	12	39	66	181	253	323	245	183	93	68	68	0	0	0	0	0	0	1531
24	0	0	0	0	0	0	0	23	79	196	292	338	304	162	165	115	63	19	0	0	0	0	0	0	1758
25	0	0	0	0	0	0	0	7	39	103	135	160	75	40	48	36	29	23	0	0	0	0	0	0	694
26	0	0	0	0	0	0	0	29	102	240	192	118	118	145	132	90	73	42	0	0	0	0	0	0	1282
27	0	0	0	0	0	0	0	24	89	184	285	252	243	295	112	69	72	30	1	0	0	0	0	0	1656
28	0	0	0	0	0	0	0	11	21	80	148	180	196	181	124	101	29	9	0	0	0	0	0	0	1080
Avg	0	0	0	0	0	0	0	11	58	113	136	148	150	150	126	96	70	23	0	0	0	0	0	0	1082
S/D	0	0	0	0	0	0	0	7	23	51	72	82	101	95	69	51	34	15	0	0	0	0	0	0	448
S/A	0	0	0	0	0	0	0	0.66	0.4	0.45	0.53	0.56	0.67	0.63	0.55	0.53	0.49	0.63	1.79	0	0	0	0	0	0.41
Min	0	0	0	0	0	0	0	1	17	42	40	41	47	40	41	36	20	3	0	0	0	0	0	0	481
Max	0	0	0	0	0	0	0	29	102	240	292	338	396	404	271	217	150	68	1	0	0	0	0	0	1981

Daylight Data Recovery: 0% missing; 1% exceed the 15% QC threshold -- 3627 total daylight 5-minute measurements.

Note: Fractional values that do not appear in the hour columns are included in the calculation for daily values.

Data and Flag	Hour Column	Day Column
<value>*	20% < Missing < 100%	10% < Missing < 100%
<value>?	20% < Fail QC < 100%	10% < Fail QC < 100%
<blank>*	100% Missing	100% Missing
<blank>?	100% Fail QC	100% Fail QC

Station: BS
Latitude: 37.27° N
Longitude: 81.24° W
Elevation: 803 Meters AMSL
Time Zone: -5

Instrument: PSP
Calibration Constant: 8.27 uV/Wm-2
Serial Number: 17880F3
Calibration Date: 9/13/96
Note: Instrument was changed during month.